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Linzer biol. Beitr.	47/1	43-55	31.7.2015

# On the Staphylinidae of the Greek island Chios (Insecta: Coleoptera)

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A b s t r a c t: A study of 536 specimens of Staphylinidae collected in the Greek island Chios in December 2014 yielded 41 species, among them at least three undescribed island-endemic species and two first records from Greece. A species list is provided. *Xantholinus (Helicophallus) chiosicus* nov.sp., at present the sole named island-endemic representative of the family in Chios, is described and illustrated. *Geostiba bulbifera* ZERCHE, 1988, nov.syn. is placed in synonymy with *G. maxiana* (TIKHOMIROVA, 1973). The first discovery of a winged male of *Geostiba maxiana* confirms an earlier hypothesis that this species is wing-dimorphic.

 $K\ e\ y\ w\ o\ r\ d\ s$ : Coleoptera, Staphylinidae, Palaearctic region, East Mediterranean, Greece, Chios, taxonomy, new species, new synonymy, diversity, endemism, myrmecophily, wing dimorphism, new records, species list.

### Introduction

With an area of approximately 840 km², Chios is the second largest of the North Aegean islands and slightly more than half as big as Lesbos, another North Aegean island to its north. It is separated from the coast of West Turkey (Izmir) by a distance of only approximately 7 km and from Lesbos by nearly 50 km. The highest elevations are Oros Pelinneon and Oros Epos at 1297 m and 1188 m, respectively, both of them situated in the north of the island.

While the Staphylinidae of several larger islands (Crete, Rhodes, Cyprus, Lesbos) in the East Mediterranean have been addressed in several recent articles (ASSING 2005b, 2013a, 2013c, 2015; ASSING & WUNDERLE 2001), almost nothing was known about the staphylinid fauna of Chios. The only records I have been able to find are those of *Scopaeus cameroni* Coiffait, 1968 (as *S. ectypus* Coiffait, 1971) of the Paederinae (FRISCH 1994) and *Tychus rhodensis* SABELLA, BRACHAT & BÜCKLE, 1998 of the Pselaphinae (SABELLA et al. 1998), neither of them endemic to Chios.

Among the East Mediterranean islands whose staphylinid fauna has been subject to recent studies, Crete hosts by far the greatest diversity of island endemics, most likely owing to its isolated geographic situation for more than five million years, its size, and its topology. As many as 67 named endemic species and subspecies have been recorded

from this island (ASSING 2013a, 2015). The figures are significantly lower for Cyprus and Rhodes, from where 26 and nine<sup>1</sup> named island endemics have been reported, respectively (ASSING 2013c). Lesbos hosts only four<sup>2</sup> named island endemics, three of the genus *Tychus* LEACH, 1817 (Pselaphinae) (BESUCHET & SABELLA 2012; SABELLA et al. 2012) and *Quedius henroti* COIFFAIT, 1970 (Staphylininae) (SMETANA 2004). The status of the latter species, however, requires revision.

In order to explore the staphylinid fauna of Chios, a field trip was conducted by the author in December, 2014. The primary objective was not to record as many species as possible, but to focus on the autochthonous epigeic fauna of various forest, shrub, and grassland habitats. Accordingly, special habitats such as compost and dung, which generally host a great diversity of widespread Staphylinidae, were neglected.

#### Material and measurements

The material treated in this study is deposited in the following public and private collections:

The Pselaphinae and Scydmaeninae are all deposited in cBra and cMey, respectively. Reference material of the remaining species is deposited in MNHUB, cAss, cFel, cSch, and cWun.

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The image of the forebody was created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. For the remaining photographs a digital camera (Nikon Coolpix 995) was used. The map was created using MapCreator 2.0 (primap) software.

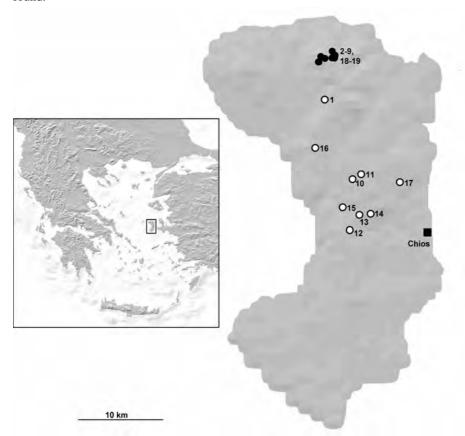
Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles (in resting position) to the posterior margin of the elytra, head length along the middle from the anterior margin of the frons to the posterior constriction of the head, and elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra.

<sup>&</sup>lt;sup>1</sup> According to ASSING (2013c), ten named species of Staphylinidae are endemic to Rhodes. In the meantime, however, one of them, *Omalium rhodicum* ZANETTI & ASSING, 2013, has been recorded also from Crete (ASSING 2015), so that it can no longer be considered an island endemic.

<sup>&</sup>lt;sup>2</sup> The two species described from Lesbos by ASSING (2005b), *Oxypoda lesbia* and *Rugilus lesbius*, are not endemic to the island. In the meantime, both of them have been recorded from West Turkey, the former also from other localities in Greece.

#### Results

A survey of Chios revealed that the habitats in the relatively densely populated southern parts of the island are not likely to host Staphylinidae of particular zoogeographic interest. They are mostly subject to pronounced human impact and largely composed of arable land, secondary woodlands, and dry biotopes at low altitudes. Therefore, sampling focused on pine forests (large parts of which had been subject to extensive recent forest fires) and grasslands in the central parts, as well as on the mountainous areas in the north (Map 1). The most interesting region is Oros Pellineon, which is characterized by remarkable habitat diversity (oak and pine forests, grasslands, etc.) and which appears to be the only place in Chios where autochthonous broad-leaved trees (*Quercus* spp.) can be found.



**Map 1**: Geographic position of Chios (left) and sample plots in Chios (right). Plots where no Staphylinidae were found are omitted. Filled circles: localities on Oros Pelinneon; open circles: remaining plots. The numbers correspond to the sample numbers in Tab. 1.

In all, 536 specimens of Staphylinidae belonging to 41 species were examined (Tab. 1). One of them is described for the first time; two species are newly recorded from Greece. Three species, *Xantholinus chiosicus* and two undescribed species of Scydmaeninae

(Stenichnus sp.) and Pselaphinae (Faronus sp.), are endemic to Chios; all of them were collected on Oros Pelinneon and its southern outliers. Despite considerable efforts in suitable habitats, a search for endemic species of genera such as Sunius STEPHENS, 1829 and Geostiba THOMSON, 1858, which are represented in the East Mediterranean by numerous local endemics, was not successful. Moreover, myrmecophilous species of the subgenus Eurysunius REITTER, 1909 (genus Astenus DEJEAN, 1833), which has endemic species in Rhodes, Crete, and Turkey (ASSING 2013a, 2013c, 2015), are most likely absent from the island; suitable host ants were not found.

**Tab. 1**: Staphylinidae collected in Chios in December 2014. In the localities column, the number of specimens is given in parentheses behind the locality number. Island-endemic species are marked with an asterisk.

Localities/samples: 1: S Fita, 38°30'48"N, 26°00'01"E, 450 m, pine forest, sifted, 22.XII,2014: 2: Oros Pelinneon: W-slope, NE Spartounda, 38°33'16"N, 25°59'31"E, 700 m, rocky slope with scattered *Quercus* spp., litter and grass sifted, 22.XII.2014; **3**: Oros Pelinneon: W-slope, NE Spartounda, 38°33'16"N, 25°59'29"E, 670 m, clearing in pine forest and road margin, under stones, 22.XII.2014; **3a**: same data, but litter and grass beneath old pine trees sifted; **3b**: same data as 3, but 28.XII.2014; **4**: Oros Pelinneon: N-slope, 38°33'42"N, 26°00'52"E, 850 m, E-slope with *Quercus* spp. and grass, under stones, 23.XII.2014; **5**: Oros Pelinneon: E-slope, 38°33'31"N, 26°00'50"E, 910 m, Quercus spp. with grass undergrowth, litter and grass near temporary stream sifted, 23.XII.2014; 6: Oros Pelinneon: N-slope, 38°33'58"N, 26°00'38"E, 700 m, pasture with shrubs and stones, under stones (Xantholinus chiosicus) and in old mushrooms, 24.XII.2014; 7: Oros Pelinneon: N-slope, 38°33'42"N, 26°00'52"E, 850 m, grass sifted near *Messor* nest, 24.XII.2014; **8**: Oros Pelinneon: E-slope, 38°33'31"N, 26°00'50"E, 920 m, pasture near temporary stream, under stones, 24.XII.2014; **9**: Oros Pelinneon: E-slope, 38°33'32"N, 26°00'37"E, 970 m, litter, moss, and grass beneath *Quercus* spp. sifted, 24.XII.2014; **10**: 10 km NW Chios, 38°25'37"N, 26°02'20"E, 700 m, pine forest, litter, moss, and mushrooms sifted, 25.XII.2014; **11**: 10 km NW Chios, 38°25'56"N, 26°03'05"E, 650 m, moist pasture, under stones, 25.XII.2014; **11a**: same data, but 28.XII.2014; 12: 8.4 km W Chios, 38°22'18"N, 26°02'06"E, 610 m, pine forest with old pine and with grass undergrowth, litter and grass sifted, 26.XII.2014; 13: 7.3 km WNW Chios, 38°23'17"N, 26°02'54"E, 780 m, pine forest with old pine near peak, litter and moss sifted, 26.XII.2014; **14**: 6.3 km WNW Chios, 38°23'21"N, 26°03'50"E, 720 m, pine forest with old pine and with grass undergrowth near peak, litter and grass sifted, 26.XII.2014; **15**: road from Avgonima to Anavatos, 38°23'47"N, 26°01'31"E, 350 m, pasture, under stones, 26.XII.2014; **16**: 16.5 km NW Chios, 38°27'39"N, 25°59'14"E, 500 m, stony calcareous pasture, under stones, 27.XII.2014; **17**: 3 km NW Vrontados, 38°25'25"N, 26°06'16"E, 390 m, stony road margin (limestone), under stones, 27.XII.2014; **18**: Oros Pelinneon: NW-slope NE Spartounda, 38°33'30"N, 26°00'02"E, 1000 m, rocky slope with scattered *Quercus* sp., litter, moss, and soil sifted, 28.XII.2014; 19: Oros Pelinneon: NW-slope NE Spartounda, 38°33'37"N, 25°59'41"E, 800 m, rocky calcareous pasture, under stones, 28.XII.2014.

Species	Localities/samples
Omaliinae	
Acidota cruentata Mannerheim, 1830	5(1), 18(1)
Omalium cinnamomeum Kraatz, 1857	2(4), 5(1), 10(1)
Proteininae	
Proteinus utrarius Assing, 2004	2(1), 3a(1), 5(2), 6(14), 10(6), 13(1), 14(6)
Micropeplinae	
Micropeplus fulvus Erichson, 1840	2(9)
P s e l a p h i n a e	
*Faronus nov.sp.	2(11), 3a(9), 9(4), 18(1)
Tachyporinae	
Mycetoporus confinis REY, 1883	9(2)

Species	Localities/samples
Mycetoporus ignidorsum Eppelsheim, 1880	18(4)
Mycetoporus jonicus Scheerpeltz, 1958	18(1)
Mycetoporus reichei (PANDELLÉ, 1869)	2(2)
Mycetoporus cf. simillimus FAGEL, 1965	2(2), 14(3), 18(2)
Tachyporus abner SAULCY, 1865	7(1)
Tachyporus nitidulus (FABRICIUS, 1781)	2(2), 8(1), 9(1), 13(2), 18(1)
Aleocharinae	
Aleochara laticornis KRAATZ, 1856	14(1)
Atheta aeneicollis (SHARP, 1869)	1(1)
Atheta marcida (ERICHSON, 1837)	10(1)
Atheta speculum (KRAATZ, 1856)	4(1)
Cypha tenebricosa Assing, 2004	2(4), 9(1)
Geostiba lucens (BENICK, 1970)	10(1)
Geostiba maxiana (TIKHOMIROVA, 1973)	2(33), 3a(95), 4(2), 5(12), 6(1), 7(30), 13(1), 18(1)
Liogluta longiuscula (GRAVENHORST, 1802)	13(1)
Myrmecopora convexula Assing, 1997	3(12), 3b(10), 11(26), 11a(2), 17(3)
Ocalea sp.	18(2)
Oxypoda acutissima Assing, 2006	3a(1), 10(2), 18(1)
Oxypoda lurida WOLLASTON, 1857	2(2), 3a(5), 7(1), 10(1), 12(3),
Oxypoda obscuricollis Assing, 2007	10(5), 14(1)
Pseudocalea angulata (EPPELSHEIM, 1880)	10(10), 12(1), 14(1)
Oxytelinae	
Anotylus inustus (Gravenhorst, 1806)	7(1)
Steninae	
Stenus glacialis HEER, 1839	2(1), 14(1)
Stenus hospes Erichson, 1840	3(1), 3b(1), 11(2)
Stenus turbulentus Bondroit, 1912	9(1), 10(3), 12(2), 13(3), 14(5)
Scydmaeninae	
*Stenichnus nov.sp.	2(1)
Paederinae	
Achenium scimbalioides Koch, 1937	11(3)
Medon dilutus pythonissa (SAULCY, 1865)	2(1), 12(2), 14(2)
Medon semiobscurus (FAUVEL, 1875)	4(4), 3a(5), 12(1), 14(1)
Micrillus testaceus (ERICHSON, 1840)	11(10)
Staphylininae	
Ocypus mus (Brulle, 1832)	3(1), 15(1), 19(1)
Ocypus sericeicollis (MENETRIES, 1832)	8(1), 11(1), 16(1), 17(1)
Othius lapidicola MÄRKEL & KIESENWETTER,	1(3), 2(19), 3a(26), 5(9), 9(1), 10(5), 12(8),
1848	13(13), 14(9), 18(5)
Quedius nemoralis BAUDI DI SELVE, 1848	1(1), 3a(2), 5(1), 12(3)
*Xantholinus chiosicus nov.sp.	1(1), 6(1), 7(1), 18(4)

# Notes on some species

### Acidota cruentata MANNERHEIM, 1830

C o m m e n t: This wing-dimorphic species has a trans-Palaearctic distribution (SMETANA 2004), but is rather rarely found, most likely because adults are active only from late autumn to early spring. In Greece, it has been recorded from several localities in the mainland and from Crete (Assing 2002, 2013a). The two males listed in Tab. 1 are micropterous.

## Faronus nov.sp.

C o m m e n t: According to BRACHAT (pers. comm.), the specimens listed in Tab. 1, all of them from Oros Pelinneon, represent an undescribed island-endemic species.

## Mycetoporus jonicus Scheerpeltz, 1958

C o m m e n t: According to SCHÜLKE & KOCIAN (2000), *M. jonicus* was previously known only from the Ionian islands Corfu, Kefalonia, Levkas, and Zakynthos. The male listed in Tab. 1 represents the first record from the Aegean islands. It is deposited in cSch.

# Mycetoporus cf. simillimus FAGEL, 1965

C o m m e n t: According to SCHÜLKE (pers. comm.), who studied five paratypes of *M. simillimus*, the material is composed of at least two species and it has not been possible to locate the holotype. Two of the three male paratypes are conspecific with the material from Chios.

# Cypha tenebricosa Assing, 2004

C o m m e n t: The previously known distribution of this species was confined to Antalya, Denizli, Mersin, Adana, Kahramanmaraş, and Osmaniye in southern Anatolia (ASSING 2009a, 2010a). The specimens from Chios represent the first records from Greece.

## Geostiba maxiana (TIKHOMIROVA, 1973)

Atheta maxiana TIKHOMIROVA, 1973: 159.

Geostiba (Lioglutosipalia) bulbifera ZERCHE, 1988: 155 ff.; nov.syn.

C o m m e n t: According to Newton (in prep.), *Geostiba euboica* PACE, 1990 is a junior synonym of the overlooked name *G. maxiana*, a replacement name for the homonym *Atheta winkleri* BERNHAUER, 1936, previously a synonym of *G. euboica*.

Geostiba bulbifera was originally described from the Vitosha range (Bulgaria) and subsequently recorded from several other Bulgarian localities (ASSING 2005a; ZERCHE 1988, 2002). A comparison of the types and additional material of this taxon with the material of *G. maxiana* (then referred to as *G. euboica*) known at that time revealed only slight differences (ASSING 2000, 2005a). With the numerous specimens available from

Chios, Lesbos, and numerous other localities today, the differences observed earlier can no longer be considered constant, but fall within the range of intraspecific variation of *G. maxiana*. Hence, *G. bulbifera* is placed in synonymy with *G. maxiana*.

The distribution of *Geostiba maxiana* includes large parts of Greece (including many islands such as Zákinthos, Levkás, Kefallinía, Evvoia, Lesbos, Kárpathos), Albania, Macedonia, Bulgaria, and western Turkey (ASSING 2005b, 2006b, 2009b, 2010c). The vast distribution prompted me to hypothesize that this species was wing-dimorphic, although all the previously examined specimens are micropterous (ASSING 2009b). Wing-dimorphism had been recorded for three *Geostiba* species, *G. circellaris* (GRAVENHORST, 1806), *G. oertzeni* (EPPELSHEIM, 1888), and *G. lucens* (BENICK, 1970), all of them widespread (ASSING 2005b, 2009b).

As many as 175 specimens ( $103 \delta \delta$ ,  $72 \circ \varphi$ ) of *G. maxiana* were collected in Chios, with one exception all of them on Oros Pelinneon, primarily by sifting pine and oak litter, as well as grass roots near a nest of *Messor* sp. (Tab. 1). Remarkably, one male from locality sample 18 is macropterous, thus confirming that *G. maxiana* is indeed wing-dimorphic.

## Geostiba lucens (BENICK, 1970)

C o m m e n t: Like G. maxiana, G. lucens is wing-dimorphic and widespread. The specimen listed in Tab. 1 is micropterous.

## Myrmecopora convexula Assing, 1997

C o m m e n t: *Myrmecopora convexula* is associated with ants of the genus *Messor* FOREL, 1890. It was originally described based on material from Izmir (western Turkey) and Bulgaria and subsequently reported also from Manisa (western Turkey) and Lesbos (ASSING 1997a, 2005b, 2007a).

### Oxypoda acutissima ASSING, 2006

C o m m e n t: Originally described from Antalya, *O. acutissima* was subsequently reported from the Turkish provinces Aydın, Bitlis, Sivas, and Ardahan (ASSING 2006a, 2007b, 2009a). The specimens from Chios (Tab. 1) represent the first records from Greece.

## Oxypoda obscuricollis Assing, 2007

C o m m e n t: This species was previously known from three localities in the Anatolian provinces Isparta, Mersin, and Kahramanmaraş (ASSING 2013b), as well as from Rhodes (ASSING 2013c). The specimens from Chios represent the second record from Greece.

### Pseudocalea angulata (EPPELSHEIM, 1880)

C o m m e n t: The distribution of this rather rare species ranges from Albania and Croatia across Greece and Turkey to Israel (ASSING 2014). The specimens  $(8 \cdot{\circ} \cdot{\circ}, 4 \cdot{\circ} \cdot{\circ})$  from Chios were exclusively sifted from litter in pine forests (Tab. 1).

#### Stenichnus nov.sp.

C o m m e n t: According to MEYBOHM (pers. comm.), the male listed in Tab. 1 represents an undescribed and most likely island-endemic species.

#### Stenus hospes Erichson, 1840

C o m m e n t : All four specimens  $(1\eth, 3\circ \circ)$  listed in Tab. 1 were collected from nests of *Messor* sp.

## Achenium scimbalioides Koch, 1937

C o m m e n t: This rare species has been recorded from few scattered localities in Greece (Fthiótis, Pelopónnisos) and Turkey (Adana, Çanakkale, Manisa) (ASSING 2010b; KOCH 1937).

## Othius lapidicola MÄRKEL & KIESENWETTER, 1848

C o m m e n t: The vast, discontinuous distribution of *O. lapidicola* ranges from the western Alps to Siberia. In the East Mediterranean, this species is by far the most common representative of the genus. Macropterous specimens of this wing-dimorphic species have been recorded primarily from some islands such as Rhodes (e.g., ASSING 1997b).

In Chios, the species was present in all the samples from shrub and forest habitats. In all, 98 specimens  $(49\,\mathcal{6}\,\mathcal{6},\,49\,\mathcal{9}\,\mathcal{9})$  were recorded. Four males and three females are macropterous (all of them from samples 2 and 18; see Tab. 1); the remainder is micropterous. Eleven males and five females are infested with Laboulbeniales.

## **Description of new species**

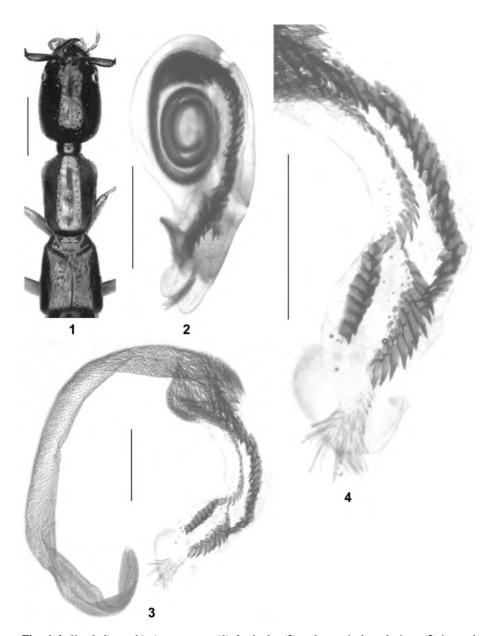
## Xantholinus (Helicophallus) chiosicus nov.sp. (Figs 1-5)

T y p e m a t e r i a l : Holotype  $\ \circ$ : "GREECE - Chios [18], Oros Pelinneon: NW-slope, 1000 m, sifted 38°33'30"N, 26°00'02"E, 28.XII.2014, V. Assing / Holotypus  $\ \circ$  Xantholinus chiosicus sp.n. det. V. Assing 2015" (cAss). Paratypes:  $2\ \circ$   $\ \circ$ ,  $1\ \circ$ : same data as holotype (cAss);  $1\ \circ$ : "GREECE - Chios [6], Oros Pelinneon: N-slope, 38°33'58"N, 26°00'38"E 700 m, fungi & stones, 24.XII.2014, V. Assing" (cAss);  $1\ \circ$ : "GREECE - Chios [7], Oros Pelinneon: N-slope, 38°33'42"N, 26°00'52"E 850 m, grass sifted, 24.XII.2014, V. Assing" (cAss);  $1\ \circ$ : "GREECE - Chios [1], S Fita, 38°30'48"N, 26°00'01"E, 450 m, pine forest, sifted, 22.XII.2014, V. Assing" (cAss).

E t y m o l o g y: The name (adjective) is derived from Chios, where the species is presumably endemic.

Description: Body length 9.5-10.8 mm; length of forebody 4.6-5.3 mm. Coloration: body distinctly bicoloured, head and abdomen blackish; pronotum and elytra bright-reddish; legs pale-reddish; antennae blackish-brown, with antennomeres I-III reddish.

Head (Fig. 1) 1.21-1.25 times as long as broad, weakly to distinctly dilated posteriad; punctation fine and sparse; interstices without microsculpture. Eyes small, 0.15-0.21 times as long as postocular region in dorsal view.



**Figs 1-4**: *Xantholinus chiosicus* nov.sp.: (1) forebody; (2) aedeagus in lateral view; (3) internal structures of aedeagus in squeeze preparation; (4) proximal portion of internal structures of aedeagus in squeeze preparation. Scale bars: 1: 1.0 mm; 2-4: 0.5 mm.



Fig. 5: Type locality of Xantholinus chiosicus nov.sp. (altitude: approximately 1000 m).

Pronotum (Fig. 1) 1.40-1.45 times as long as broad and 0.85-0.90 times as broad as head, widest at anterior angles; dorsal series composed of 10-15 punctures each; interstices without microsculpture.

Elytra (Fig. 1) short, approximately 0.6 times as long as pronotum. Hind wings reduced.

Abdomen broader than elytra; interstices with distinct microsculpture composed of transverse meshes; posterior margin of tergite VII without palisade fringe.

 $\delta$ : aedeagus (Fig. 2) approximately 1.4 mm long; internal tube (Figs 3-4) proximally with three characteristic series of spines.

C o m p a r a t i v e n o t e s: The subgenus *Helicophallus* COIFFAIT, 1956 is represented in the East Mediterranean by numerous micropterous species with more or less restricted distributions. The geographically closest consubgeners are *X. moreanus* ASSING, 2006 (Greece: Pelopónnisos) and *X. chersonesicus* ASSING, 2007 (Turkey: Çanakkale). *Helicophallus* species are unknown from other Aegean islands and from adjacent provinces of Turkey (Izmir, Manisa, Aydın, Muğla). *Xantholinus chiosicus* is distinguished from both *X. moreanus* and *X. chersonesicus* by the blackish abdomen (in *X. moreanus* and *X. chersonesicus* usually reddish to dark-brown) and by the shapes of the series of spines in the aedeagus. For illustrations of *X. chersonesicus* and *X. moreanus* see ASSING (2006c, 2007c).

D is tribution and natural history: The known distribution is confined to Oros Pelinneon (including its southern extensions) in the north of Chios. Five of the seven type specimens were sifted from oak and pine litter. Two females were collected from under stones in moist stony pastures with shrubs and on a slope with scattered *Quercus* sp. All the localities are calcareous and stony. The altitudes range from 450 to 1000 m. The type locality is illustrated in Fig. 5.

## Acknowledgements

Volker Brachat (Geretsried), Heinrich Meybohm (Großhansdorf), and Jürgen Vogel (Görlitz) identified the Pselaphinae, the Scydmaeninae, and *Atheta speculum*, respectively. Michael Schülke (Berlin) identified *Mycetoporus jonicus* and confirmed the identification of *Mycetoporus reichei*, *M. confinis*, and *Tachyporus abner*. Benedikt Feldmann (Münster) proof-read the manuscript.

# Zusammenfassung

Eine Untersuchung von 536 Staphylinidae von der griechischen Insel Chios ergab 41 Arten, darunter mindestens drei Inselendemiten sowie zwei Erstnachweise für Griechenland. Eine Artenliste wird erstellt. *Xantholinus (Helicophallus) chiosicus* nov.sp., nach derzeitigem Kenntnisstand auf Chios endemisch, wird beschrieben und abgebildet. *Geostiba bulbifera* ZERCHE, 1988, nov.syn., wird mit *G. maxiana* (TIKHOMIROVA, 1973) synonymisiert. Die Entdeckung eines macropteren Männchens von *Geostiba maxiana* bestätigt die vor einigen Jahren formulierte Hypothese, dass die Art flügeldimorph ist.

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